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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,284	10/11/2002	Roger D. O'Shaughnessy	440462031603	5944

22859 7590 04/02/2004

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EXAMINER

BLACKWELL RUDASIL, GWENDOLYN A

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 04/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/009,284

Applicant(s)

O'SHAUGHNESSY ET AL.

Examiner

Gwendolyn A. Blackwell-Rudasill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-56 is/are pending in the application.
- 4a) Of the above claim(s) 22-37 and 42-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 38-41 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-21 and 38-41, drawn to a substrate with a hydrophilic coating.

Group II, claim(s) 22-37, drawn to an insulating glass.

Group III, claim(s) 42-56, drawn to the method of processing substrates.

2. The inventions listed as Groups I, II, and III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features or the special technical feature does not provide a contribution over the prior art for the following reasons:

The special technical feature is defined as a substrate having a temporary coating that is removed with a selected washing fluid. The special technical feature does not provide a contribution over the prior art as evidenced by United States Patent Application Publication no. 2002/0176988, Medwick et al. Medwick et al disclose a substrate with a temporary protective coating that can be removed through the use of a solvent, (page 2, section 0014).

3. During a telephone conversation between Lawrence Ferguson and Eric Snustad on March 13, 2003 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-21 and 38-41. Affirmation of this election must be made by applicant in replying to this

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Office action. Claims 22-37 and 42-56 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-9, 11-13, 16-19, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by United States Patent no. 5,302,449, Eby et al.

Regarding claims 1-9

Eby et al disclose a high transmittance low E coating for substrates that can have a protective overcoat. The overcoat includes oxides of zinc, tin, indium, bismuth or oxides of alloys including such metals. Zinc oxide is particularly preferred. The overcoat is provided over a mechanically durable coating, such as titanium oxide, (column 7, lines 20-53). While it does

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not specifically state that the overcoat is temporary, Eby et al disclose that the overcoat “will not significantly affect the optical properties of the film or the coated substrate”, (column 7, lines 60-67). In addition, even if a “washing process were so harsh to wash away the entire overcoat from the film stack” the “overcoat would nonetheless serve to protect the underlying film from abrasion during handling, shipping, or the like prior to washing” thereby indicating that it is not necessary for the overcoat to be permanent, (columns 7-8, lines 67-6). The overcoat has an optical thickness of between 10-40 . An overcoat of zinc oxide has a physical thickness of about 5- about 20 ´, (column 8, lines 7-19).

Regarding claims 11-13, 16-19, and 21

Eby et al also disclose a base coat on the substrate of a metal oxide such metals as titanium, hafnium, zirconium, zinc, tin, indium, and bismuth, (column 3, lines 25-40). An infrared radiation reflective metal layer is formed over the base coat with a metal oxide layer formed over the metal reflective layer. The same metal oxides used for the base coat can be used for the coating over the metal reflective layer. It is known in the art that titanium oxide has hydrophilic and photocatalytic properties, (columns 3-4, lines 60-35).

Regarding claims 2 and 13

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art exemplifies the applicant’s claimed durable and protective coatings, the claimed physical properties relating to the ability of the durable coating to withstand temperatures on the order of about 600°C and the contact angle are present in the prior art. As such, the addition of the

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claimed physical property to the claim language fails to provide patentable distinction over the prior art of record.

Regarding claim 3

Claim 3 is a product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claim 3 do not provide patentable distinction between the claimed invention and the prior art of record.

7. Claims 1-5, 10, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication no. 2002/0176988, Medwick et al.

Regarding claims 1-5, 10, and 20

Medwick et al disclose a light transmissive article with a removable protective coating. The substrate may be coated with one or more functional coatings wherein the protective coating is formed over the functional coatings. The protective coating may also be formed directly on the substrate, (page 2, sections 0011-0012). Removal of the protective coating is achieved by solvent, combustion or thermal decomposition, (page 2, sections 0014-0015). The functional coating may be a single or multiple layer coating comprised of one or more metals, non-metals, semi-metals, semiconductors, and or alloys, compounds, composites, combinations or blends thereof such as metal oxides, (page 3, section 0025). The functional coating can also contain infrared reflecting films, (pages 3-4, section 0026). A functional coating such as titanium can be

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used as a reflective metal that may further comprise a primer film or barrier film, which is located over and/or under the metal reflective layer, (pages 4-5, section 0026)

Medwick et al also disclose that the coating is removable by wiping, spraying, or dipping with aqueous or non-aqueous solvents, organic, alkaline or acidic solvents, (page 4, section 0031).

Medwick et al further disclose that the functional coating can be deposited utilizing different deposition methods. Furthermore, the functional coatings can be applied to both sides of a substrate with a protective coating formed over at least a portion of the functional coating, (page 4, sections 0027-0030). The protective coating can be applied onto one or more surfaces of a substrate having zero, one, or more functional coatings, (page 5, section 0040). Decomposure temperatures range from 648-704°C for the proactive coating, (page 7, section 0053). In addition, the protective coating can contain metal oxides such as iron oxides, (page 6, section 0051).

Regarding claim 3

Claim 3 is a product by process claim wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claim 3 do not provide patentable distinction between the claimed invention and the prior art of record.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 14-15 and 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent no. 5,302,449, Eby et al in view of United States Patent no. 6,677,063, Finley.

Eby et al disclose a high transmittance low E coating for substrates that can have a protective overcoat. The overcoat includes oxides of zinc, tin, indium, bismuth or oxides of alloys including such metal. Zinc oxide is particularly preferred. The overcoat is provided over a mechanically durable coating, such as titanium oxide, because the durable coating is more susceptible to chemical attack, (column 7, lines 20-53). While it does not specifically state that the overcoat is temporary, Eby et al disclose that the overcoat “will not significantly affect the optical properties of the film or the coated substrate”, (column 7, lines 60-67). In addition, even

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if a “washing process were so harsh to wash away the entire overcoat from the film stack” the “overcoat would nonetheless serve to protect the underlying film from abrasion during handling, shipping, or the like prior to washing” thereby indicating that it is not necessary for the overcoat to be permanent, (columns 7-8, lines 67-6). The overcoat has an optical thickness of between 10-40 . An overcoat of zinc oxide has a physical thickness of about 5- about 20 , (column 8, lines 7-19).

Eby et al also disclose a base coat on the substrate of a metal oxide such as titanium, hafnium, zirconium, zinc, tin, indium, and bismuth, (column 3, lines 25-40). An infrared radiation reflective metal layer is formed over the base coat with a metal oxide layer formed over the metal reflective layer. The same metal oxides used for the base coat can be used for the coating over the metal reflective layer. It is known in the art that titanium oxide has hydrophilic and photocatalytic properties, (columns 3-4, lines 60-35). The base coat can be deposited by sputtering, (column 3, lines 37-40).

Finley disclose a photocatalytic/hydrophilic coating wherein oxides of titanium and silicon can be used as the photoactive material, (columns 4-5, lines 31-28; column 9, lines 10-25). The coating can be deposited through sputtering, (column 7, lines 35-54). A temporary or removable protective layer can be applied over the coating, (column 6, lines 3-13).

Eby et al and Finley disclose inventions related to providing photocatalytic coatings on substrates. Because the inventions of Eby et al and Finley have overlap in the disclosure of the types of materials that are used to create photocatalytic coatings, it would have been obvious to one skilled in the art at the time of invention to modify the titanium oxide film of Eby et al with

the silicon oxide of Finley to provide a more dense hydrophilic film that provides more protection to the underlying substrate once the temporary protective coating is removed.

Claims 38-41 are product by process claims wherein the patentability of the product does not depend on its method of production. "If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *See MPEP 2113*. As such, the process limitations within claims 38-41 do not provide patentable distinction over the prior art of record.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

United States Patent no. 6,379,746, disclose a temporary coating for protecting glass articles.

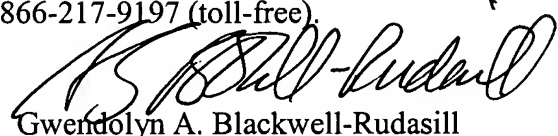
European Patent Application Publication no. 0 369 581 A1, disclose a temporary protective coating for protecting hydrophobic surfaces.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gwendolyn A. Blackwell-Rudasill whose telephone number is (571) 272-1533. The examiner can normally be reached on Monday - Thursday; 6:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (571) 272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Gwendolyn A. Blackwell-Rudasill
Examiner
Art Unit 1775

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